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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/542,393      | 07/14/2005  | Yoshihisa Takada     | 52433/807           | 3086             |

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| EXAMINER |
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LAVILLA, MICHAEL E

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| ART UNIT | PAPER NUMBER |
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1775

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/542,393

Applicant(s)

TAKADA ET AL.

Examiner

Michael La Villa

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20050714.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
2. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Regarding Claim 1, it is unclear what is meant by the phrase "being occupied by oxides." It is unclear what is to be counted in measuring oxide area. Are these oxide compounds? Are these grains that have an oxide component? Is it something else? It is unclear whether the claimed nitric acid treatment contributes to or subtracts from the presence of oxides on the surface. Can ambient exposure after the nitric acid treatment result in the limitations being met? Does the claimed article contain these oxides in the claimed amounts at the interface between the steel and hot-dip layer?
5. Regarding Claim 5, it is unclear what is the dependency on Claim 4 when elements other than Mo are added or when only Mo is added and there is no retained austenite. Must Ni be present?
6. Regarding Claim 6, it is unclear what is the dependency on Claim 4 when elements other than Cu or Sn and Mo are added or when only Cu or Sn and Mo is added and there is no retained austenite. It is unclear whether both Cu and Sn can be added. Must Ni be present?

7. Regarding Claims 7 and 8, it is unclear what is the nature of the dependency on Claims 5 and 6. Do these claims describe methods of making the articles of Claims 5 or 6, or do these claims describe a method of treating steels, as opposed to hot-dipped steels, described in Claims 5 or 6, in which case they are not properly further limiting? Are the conditions of Claims 5 and 6 being invoked? It is unclear what is the antecedent basis of the phrase "heat retention . . . said temperature range." What temperature is being referred to? Regarding Claim 8, it is unclear what is the basis for measuring the amount of iron in the hot-dip layer. Is it weight percentage?
8. Regarding Claims 9 and 10, it is unclear what is the nature of the dependency on Claims 1 and 2. Do these claims describe methods of making the articles of Claims 1 or 2, or do these claims describe a method of treating steels, as opposed to hot-dipped steels, described in Claims 1 or 2, in which case they are not properly further limiting?
9. Regarding Claim 9, it is unclear what is meant by the phrase "O ( 30 ppm."
10. Regarding Claim 10, it is unclear whether the steel must contain Ni.
11. Regarding Claims 11 and 13, it is unclear what is the relationship between this described hot-dip layer and that already described in Claim 1. In the penultimate line, it is unclear what is the antecedent basis of the phrase "said hot-dip galvanizing layer." It is unclear whether the described SEM test is different from that of Claim 1.

Art Unit: 1775

12. Regarding Claim 12, it is unclear whether the claimed product-by-process steps of this claim describe processing that is to be performed after obtaining the claimed oxide areal ratio. It is unclear whether the claim demands retention of the claimed oxide areal ratio after these processing steps. If not, it is unclear how the claim is further limiting.

13. Regarding Claim 13, it is unclear whether the phrase "surface layer of base material" describes the "surface of steel sheet." It is unclear what constitutes "oxides" whose lengths are to be measured.

***Claim Rejections - 35 USC § 102***

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

15. A person shall be entitled to a patent unless –

16. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujita et al. WO 02/101112. Fujita et al. teaches galvanized steel sheets of the claimed steel composition and galvanizing layer composition, wherein the interface is comprised of oxides of the claimed areal percentages and sizes. See Fujita et al. (Claims 1-3 and 28-34). The claimed method steps are disclosed as well. Note that the method limitations of Claims 9 and 10 are permissive ("may").

***Conclusion***

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is

Art Unit: 1775

(571) 272-1539. The examiner can normally be reached on Monday through Friday.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa  
20 March 2006

  
MICHAEL E. LAVILLA PH.D.  
PRIMARY EXAMINER